

REMARKS

Claims 39-58 were pending in the subject application. Claims 51-53 were withdrawn from consideration by the Examiner as directed to non-elected subject matter. By this amendment, Claims 51-53 have been canceled without prejudice or disclaimer, and Claims 40, 45, 50, 54, 55, 56 and 58 have been amended. Support for the claim amendments can be found at least in the previous version of the claims.

The specification has been amended to 1) correct obvious errors in the text, 2) provide a Sequence Listing and add SEQ ID NOs to the specification, and 3) provide replacement Figures.

Applicants maintain that the amendments do not raise an issue of new matter. Accordingly, entry of the amendments is respectfully requested.

Objections to Specification

The Examiner objected to spelling errors on pages 36 and 37. The specification has hereinabove been amended to correct these errors, thereby obviating this objection.

Objections to Claims

1. Claim 40 was objected to for reciting non-elected subject matter. Claim 40 has hereinabove been amended to delete non-elected subject matter thereby obviating this objection.
2. Claim 54 was objected to for being dependent on non-elected claim 51. Claim 54 has hereinabove been amended to depend from Claim 58 thereby obviating this objection.
3. Claim 55 was objected to for depending on Claim 64, which has not yet been filed. Claim 55 has hereinabove been amended to depend from Claim 54 thereby obviating this objection.

Sequence Listing

The application has been amended to provide a Sequence Listing for the sequences shown in Figure 1 and for the sequence set forth on page 39. Sequence identifier numbers have been added to the specification. Pursuant to 37 C.F.R. §1.821(f), the Sequence Listing information recorded in computer readable form submitted herewith on floppy disk is identical to the paper copy of the Sequence Listing (3 pages) attached hereto as **Exhibit 2**. Pursuant to 37 C.F.R. §1.821(g), the Sequence Listing does not include new matter.

Drawings

The Drawings were objected to as poor copies of originals and not legible enough for printing. The specification has hereinabove been amended to provide replacement drawings (**Exhibit 1**, 4 sheets). Reconsideration and withdrawal of this objection are respectfully requested.

Rejection under 35 U.S.C. 112, First Paragraph

Claims 39-50 and 54-58 are rejected under 35 USC 112, first paragraph, as not enabled for the full scope of the claims.

Applicants respectfully traverse this rejection.

The Examiner has argued that transgenic plants with a construct according to the present invention have not been enabled because the art would be unpredictable as to whether the desired phenotype would result from the transformation. The Examiner based this on e.g. Flipse et al. (Theoretical and Applied Genetics 88: 369-375, 1994), which the Examiner indicated show that no phenotypical changes (in the starch) were detected after transformation with a GBSSI. However, it is noted that Flipse et al. clearly show in Table 1 of their publication that plants which after transformation show increased GBSS activity also show a dramatically increased amylose content, thus demonstrating that an increased activity of the enzyme indeed gives an altered phenotype of the starch. According to the data of Flipse et al., the amylose content

seems to level off at a certain threshold (about 22-23%), which is not further elevated by higher activity of the enzyme. However, it is common for enzymes, as would be appreciated by the skilled artisan, for the action of an enzyme to be limited by the availability of substrate, and in *in vivo* settings by commonly occurring feedback mechanisms. Furthermore, in performing transformation experiments, a person skilled in the art will expect to get different results based on the level of expression of the transgene, which can vary due to different environmental factors. Therefore, a skilled artisan, when setting up these kinds of transformation experiments, routinely transforms numerous plants and checks for those transformants that exhibit the desired result. Thus, it lies within the normal, routine experimental set-up and the capabilities of the average person skilled in the art, to perform these transformations and select the ones that are shown to be successful. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Rejections under 35 U.S.C. 112, Second Paragraph

1. Claim 56 is rejected as indefinite for omitting an expression step and a statement wherein the fusion protein is expressed. Claim 56 has hereinabove been amended to recite the omitted steps.
2. Claim 58 is rejected as indefinite for omitting a transformation step and a statement wherein the affinity of the enzyme has been increased. Claim 58 has hereinabove been amended to recite the omitted steps. The Examiner also indicated that the term "affinity" in Claim 58 renders the claim indefinite. The term affinity to starch or starch granules is defined on page 12, lines 16-17 as meaning "binds to, attaches to, complexes with or otherwise associates with" starch or starch granules. In addition, on page 8, lines 7-29, the application explains how the affinity of an enzyme can be increased according to a method of the invention, i.e., by fusing the enzyme to a starch binding domain. The Examiner also indicated that Claim 58 is indefinite for reciting both a broad recitation "starch and/or starch granules" and a narrow recitation "starch

or starch granules.” Claim 58 as amended now recites only “starch and/or starch granules...”

Reconsideration and withdrawal of these rejections are respectfully requested.

Rejections under 35 USC 101

Claims 45, 50, and 55 are rejected as encompassing non-statutory subject matter, i.e., untransformed plants and seeds. Claims 45, 50 and 55 have hereinabove been amended to clarify that the claims are directed to only transformed plants and seeds and do not encompass plants and seeds that occur in nature. Reconsideration and withdrawal of these rejections are respectfully requested.

Rejections under 35 USC 102(b)

1. Claim 39 and dependent Claims 41 and 44 are rejected under 35 USC 102(b) as anticipated by Dalmia et al., *Biotechnology and Bioengineering*, 47: 575-584, 1995, in light of GenBank Accession gi: 143654, April 26, 1993.

Applicants respectfully traverse this rejection. Applicants maintain that Dalmia et al. do not teach all the limitations of independent Claim 39. In particular, Dalmia et al. do not teach a genetic construct wherein the construct is suitable for transforming a plant and wherein the plant transformed with the construct expresses a fusion protein comprising an enzyme that interacts with starch or starch granules and a bacterial starch binding domain. Accordingly, Dalmia et al. do not anticipate the claimed invention. Reconsideration and withdrawal of this rejection are respectfully requested.

2. Claims 39, 42-50, and 54-58 are rejected under 35 USC 102(b) as anticipated by Kortstee et al., *The Plant Journal* 10: 83-90, 1996.

Applicants respectfully traverse this rejection. Applicants maintain that Kortstee et al. do not teach all the limitations of independent Claims 39 and 58. In particular, Kortstee et al. do not teach a construct that contains a bacterial starch binding domain. It is noted that the construct of Kortstee et al. does contain a transit peptide. Transit

peptides are also used in the present invention to direct expression of the fusion protein to specific organelles (see, e.g. page 20, lines 11-22, of the present application).

Accordingly, Kortstee et al. do not anticipate the claimed invention. Reconsideration and withdrawal of this rejection are respectfully requested.

CONCLUSIONS

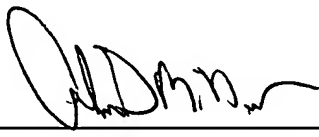
In view of the amendments and remarks made hereinabove, reconsideration and withdrawal of the objections and rejections set forth in the May 24, 2005 Office Action and passage of the pending claims to allowance are respectfully requested.

No fee is deemed necessary in connection with the submission of this reply. However, if any unanticipated fee is required to maintain the pendency of the subject application, the PTO is authorized to withdraw the amount of any such fee from Deposit Account 01-1785.

Respectfully submitted

AMSTER, ROTHSTEIN & EBENSTEIN LLP
Attorneys for Applicants
90 Park Avenue
New York, NY 10016
(212) 336-8000

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By: 
Alan D. Miller
Registration No.: 42,889